ISSUE 10

AGRIVIEW

MARCH 2013 VOLUME 8

Spotlight on Agriculture Research and Feeding the World

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Government of Saskatchewan
Ministry of Agriculture

Minister's Message

The Saskatchewan Plan for Growth outlines specific agriculture goals to be achieved by 2020. One objective to achieving these goals is providing effective business risk management programming that meets the needs of farmers and ranchers.

On February 11, 2013, I announced the 2013 Crop Insurance program, which includes record coverage levels and continued improvements to the program.

Coverage levels are a record $194 per acre, on average, which is more than double the coverage offered in 2007. The budget for the 2013 Crop Insurance Program is a record $198 million. This is a significant increase from the $104 million in Crop Insurance funding under the previous government in 2007.

Yield trending is one of the 12 initiatives introduced as part of the extensive review of the program in 2008. It improves coverage levels for producers by accounting for advancements, such as improvements in equipment, agronomic practices and crop varieties. In 2013, yield trending will expand to include hard red spring wheat, hard white spring wheat and oats. Yields for these crops will increase by nine per cent, 7.8 per cent and 13 per cent, respectively, increasing producers' coverage levels.

Establishment Benefit values will also increase from $50 to $60 per acre for canola and identity-preserved canola and from $35 to $40 per acre for field peas.

The insurable area of soybeans is expanding so that more than half of the land in Saskatchewan is eligible for coverage. New varieties of soybeans are being developed for Saskatchewan growing conditions and producers are increasing their seeded acreage across the province.

Corn acres in Saskatchewan have also increased in recent years. As a result, we are increasing the insurable area of the Corn Heat Unit Program so that nearly all corn grown in Saskatchewan is eligible for this coverage.

The 2013 Crop Insurance program will also include enhancements introduced in past years, including an Unseeded Acreage Benefit of up to $100 per eligible acre, yield cushioning and 100 per cent wildlife damage compensation. With record coverage and continued improvements, I encourage all producers to consider enrolling in crop insurance as there will be no ad-hoc AgriRecovery program for weather-related disasters in 2013.

For more information, contact your local Crop Insurance office.

Sincerely,

Lyle Stewart

STORY SNAPSHOTS

Irrigation crop varieties

Preventing scours in calves

ADF research project

Agriculture Awareness Summit

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Cover: Saskatchewan will do its part to feed the world as a leader in food production, innovation and security. Learn more by reading our research feature starting on page 11.

Government of Saskatchewan
Ministry of Agriculture

AGRIVIEW is published by the Communications Branch of Saskatchewan Agriculture for Saskatchewan farmers and farm and food organizations. **For more information, call (306) 787-5160 or email agriview@gov.sk.ca.**
To view this publication online, visit www.agriculture.gov.sk.ca/programs-services.

Growing the vegetable industry in Saskatchewan

by Connie Achtymichuk, PAg
Provincial Specialist, Vegetables
Crops Branch

Saskatchewan grown vegetables that are available in season at farmers' markets and market gardens will soon be easier to find at retail stores as well. In 2012, vegetable producers from around the province organized themselves into zones, realizing that by working together, they could produce the larger volumes of produce required by retailers.

The Grocery People, an organization dedicated to providing a high standard of service and quality product to the food industry, agreed to work with the producers by purchasing the produce grown and distributing it through Federated Co-op stores throughout Saskatchewan. The guarantee of a market has given producers a reason to increase production. Growing for retail requires producers to have CanadaGap, On Farm Food Safety Certification. In 2012, almost 40 vegetable operations were audited and certified.

A value chain is a partnership between the producers and the buyers. The vegetable value chain was created to increase efficiencies and develop and market vegetable products in Saskatchewan's retail stores. The members communicate constantly; to react quickly to the needs of the buyer to be more competitive.

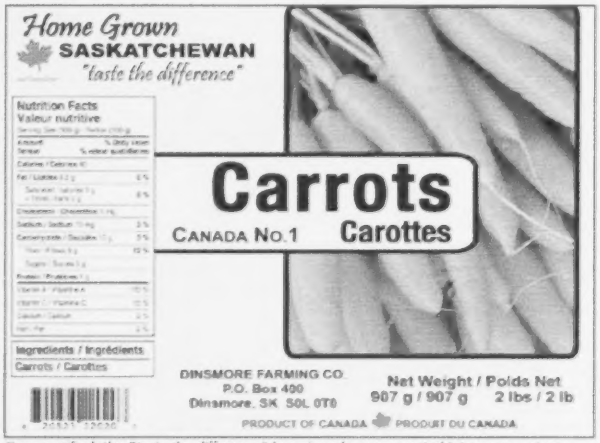
The project members divided the province into zones. Five zones were established; Outlook, Lumsden, Yorkton, the North East region and Kindersley. The producers in each of the zones work together to support each other and to build the volume that is required by the buyer. The plan is to add more markets and more producers as the groups capacities increase.

It is important for consumers to be able to identify the Saskatchewan grown product when it is in the store, so the group, with the help of the Saskatchewan Agri-Value Initiative (SAVI) have developed Home Grown Saskatchewan "taste the difference". In 2012, only carrots were marketed under this brand, but in 2013, many more fresh vegetables will be sold under this label. As the supply of vegetables increases, the value chain producers are looking at developing a prairie brand in order to access markets outside Saskatchewan.

Look for the brand in your local Federated Co-op stores this summer and "taste the difference."

FOR MORE INFORMATION

- Contact Connie Achtymichuk at (306) 787-2755 or email connie.achtymichuk@gov.sk.ca.



Once certified, the "taste the difference" brand can be incorporated into your product.

SHSA: MORE THAN HERBS AND SPICES

by Connie Kehler, Executive Director, SHSA

and

by Dale Risula, PAg.
Provincial Specialist, Special Crops
Crops Branch

The Saskatchewan Herb and Spice Association (SHSA) is the secretariat for the Canadian Herb, Spice and Natural Health Product Coalition (CHSNC). Its strength is its ability to collaborate for the good of the industry. With more than 4000 domestic botanicals that can be grown and processed in Canada, diversity and collaboration is the way this association and industry has survived.

For more than 25 years, SHSA led this industry starting with spice growers and buyers, wild crafters, culinary herb growers and processors. Today, in collaboration with CHSNC, its mandate has widened to include new crops such as all wild products (wild mushrooms, fiddle heads and wild rice), as well a collaborative role with hemp in Saskatchewan.

SHSA/CHSNC has developed international plant identification practices. TheCanadian Food Inspection Agency recognized (and internationally benchmarked) Good Agriculture and Collection Practices (GACP), "SETT to Go" traceability tools to help producers and processors validate their good work and instill efficiencies to compete domestically and abroad. More than 400 people have been trained across the country on GACPs from Labrador to Haida Gwaii, formerly known as the Queen Charlotte Islands.

SHSA/CHSNC helped build the national Organic regulations, the Natural Health Product regulations, the IR4 crop grouping standards, the Cantrace standards, the Canadian Agriculture Human Resource Council, the Natural Health Product Research Society and is actively working with the Pest Management Regulatory Agency (PMRA) on its minor use program.

This year SHSA/CHSNC introduced a spice levy complete with a sub-board of spice buyers, growers, researchers and government representatives. This sub-board has already started its first research study, outlined minor use priorities and laid out a future work plan. The key drivers for this association are respect, collaboration and support.

Our goal isn't to produce as much product possible to saturate a market, but to be sustainable.

FOR MORE INFORMATION

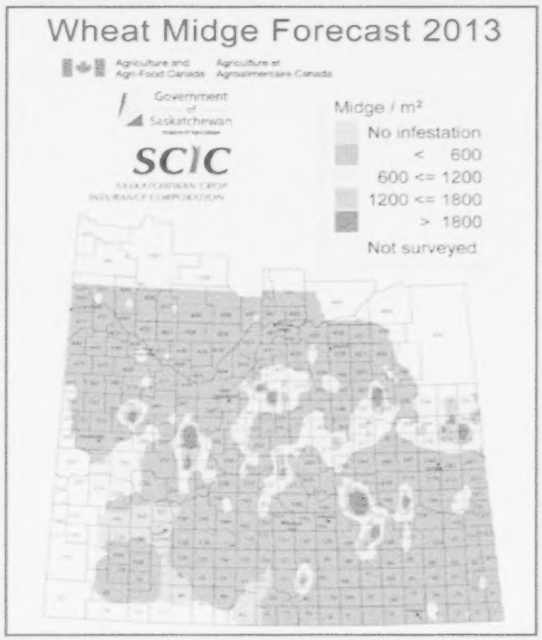
- Visit the SHSA website at www.saskherbspice.org.

Saskatchewan 2013 Wheat Midge forecast

by Scott Hartley, PAg
Provincial Specialist, Insect and Vertebrate Pests
Crops Branch

Wheat midge risk for 2013 appears moderate to high across central regions of Saskatchewan. As in most years the areas of highest risk are in the Dark Brown and Black soil zones, however, increased moisture conditions in parts of the Brown soil zone in the southwest have resulted in increased midge infestations as indicated in the 2013 wheat midge forecast map.

High concentrations of wheat midge were found in samples from pockets distributed in eastern Saskatchewan, near the Manitoba border, extending through Rural Municipalities (RMs 301 to 304 and 366), east of Regina (RMs 185, 127, 187), into central Saskatchewan, south of Watrous (RM 251) and east of Saskatoon (RMs 371, 372). In the West Central Region severe infestations were noted northwest of Rosetown (RMs 318, 319) and west of Outlook (RMs 256 north to 316).



The wheat midge forecast map provides an estimate of risk. However, risk should be considered on a regional basis rather than specific to individual fields. Producers should note that actual wheat midge populations will vary from field to field. The map is based on 421 soil samples collected in the 2012 fall survey. Areas of infestation indicating more than 600 wheat midge per square metre may still result in significant damage and yield loss especially if environmental conditions are favourable for wheat midge.

Climatic conditions in the spring – primarily temperature and precipitation – will ultimately determine the extent and timing of midge emergence during the growing season. Excess moisture will have a cooling effect, usually resulting in a later emergence of the wheat midge adults. If precipitation is less than 22 mm prior to the end of May there may be a later and extended period of midge emergence.

FOR MORE INFORMATION

- Please contact the Agriculture Knowledge Centre at 1-866-457-2377.

PRAIRIE FRUIT BRAND LAUNCHED

by Forrest Scharf, BA, BSA, AAg
Provincial Specialist, Fruit Crops
Crops Branch

A Prairie Fruit brand has been launched in Saskatchewan, Alberta and Manitoba.

The brand was created by Blacksheep Strategy Inc. (Blacksheep) for Canadian Prairie Fruit Federation (CPFF) member usage, and recently received the Canadian Agri-Marketing Association's best "Advertising for Agribusiness or Agricultural Association, Consumer Focused" award.

In 2007 the Saskatchewan Fruit Growers Association, the Prairie Fruit Growers Association of Manitoba, and the Alberta Farm Fresh Producers Association formed CPFF to facilitate research collaboration and development of generic marketing material. In 2011, the desire for a marketing presence led CPFF to select Blacksheep to develop a "relevant, take-to-market brand and positioning strategy".

The goal of the brand was: to position prairie-grown fruit favourably in the minds of consumers so that the brand results in preferential purchases over other fruit. For brand development, Blacksheep conducted several core consumer focus-groups in Calgary, Saskatoon and Winnipeg. Interviews included analysis of: perception of prairie fruit; aspects of prairie fruit that differentiates it; shared core-customer characteristics; differences between customers and people who do not purchase locally grown fruit; and, barriers that limit purchase of local fruit.

Some key descriptive attributes linked to the perception of prairie fruit included: fresher/ riper fruit; tastier/better flavour; better texture/ crispness/ juiciness; more natural production; more nutritious; less environmentally harmful; and supporting the local economy.

In order of priority, the aspects of prairie fruit that differentiate it were found to be: taste, freshness, flavor, overall quality; locally grown; enjoyment of going to a Farmers Market or U-Pick; connection with a farmer; and feeling that local food is wholesome and healthy. The word "prairie" was found to be appealing to most consumers and "prairie fruit" was considered a good geographic descriptor. The top priority descriptors cited above were incorporated into the brand, and the design work was selected by a CPFF committee based upon general appeal.

Some of the barriers identified by non-buyers were that it is not convenient to go to Farmers Markets or to U-Pick operations, that they have never eaten prairie fruit, and that they do not know where/when to find it. Hopefully the new Prairie Fruit brand will make it easier for more consumers to identify and enjoy our tasty prairie fruit.

FOR MORE INFORMATION

- Contact Forrest Scharf at (306) 787-4666 or email forrest.scharf@gov.sk.ca.

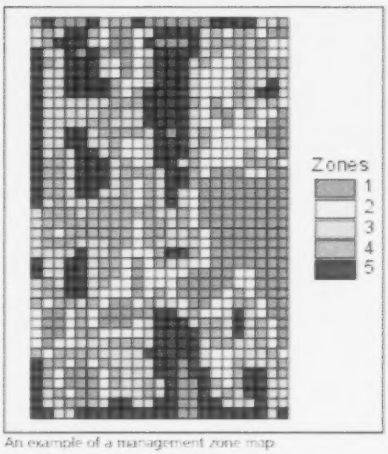
A sample of the new local-branding identifier.

Variable rate treatments: good for the producer, good for the environment

by John Ippolito, PAg
Regional Crop Specialist, Kindersley
Regional Services Branch

Increasingly, western Canadian producers are adopting precision agriculture practices. With the use of a global positioning system (GPS) to track the location of equipment in the field, producers can apply the necessary input – such as fertilizer – in the precise amount needed and only where it is needed. This has benefits for the producer's bottom line as well as for the environment.

Making variable rate fertilizer applications can be complicated in that there are a number of factors and methods involved. Two of the essential elements in the process are: 1) identifying fields that have significant nutrient variability; and 2) determining what you hope to achieve by variable rate applications on those fields. Depending on the producer and the situation, the producer may wish to increase or decrease input use with goals of increasing yields or managing input costs.



An example of a management zone map

Nutrient variability can be due to topography, soil texture, salinity or earlier management practices. Different methods—such as soil conductivity maps, satellite images of vegetation and topographic maps—can be used to record the variations within the fields. This information is then used as the basis for developing management zones that require different treatments.

After making a variable rate fertilizer application, it is essential to record the cost of the treatments and the resulting crop yield in order to evaluate whether there is a net benefit to using these management practices in future years. Compare the results in each management zone against a check or constant rate that normally would have been used in that zone. By using this method, you can evaluate the results of the treatment in the management zones to determine if you have met your objectives.

FOR MORE INFORMATION

- Visit the Saskatchewan Agriculture website at www.agriculture.gov.sk.ca and look for the factsheet "Variable Rate Treatments" in the Crops/Soils, Fertility and Nutrients section; or
- Contact your regional crops specialist in your local Saskatchewan Agriculture Regional Office.

IRRIGATED ANNUAL CEREAL FORAGE DEMONSTRATION

by Gary Kruger, PAg, CCA
Irrigation Agrologist
Irrigation Branch

As part of forage rejuvenation following alfalfa breaking, annual cereals are traditionally grown on flood irrigated soils for two or three years. This step is needed to control weeds, mainly dandelion and wild barley. It also improves soil tilth to allow good seed to soil contact for sowing small seeded forages at shallow depths into a firm seedbed.

During 2012, the Irrigation Crop Diversification Corporation (ICDC) conducted a demonstration on a flood irrigated field at Val Marie to compare the greenfeed yield of four crop types. CDC Cowboy barley, Pinnacle oats, Tyndal spring triticale and Gazelle spring rye were planted April 24 using the same rate setting on the drill for each crop type. Crop emergence and seedling establishment were fair to good on this heavy textured, prone-to-crusting soil. Soil fertility at the site was excellent as manure had been liberally applied to the site prior to a fallow year in 2011.

Under these conditions, the greenfeed yield was highest for CDC Cowboy barley. Oats yielded slightly less than the barley. Heading of the oats was delayed relative to the other crops because of the high soil fertility on this site. This effect reduced the oats' competitiveness with stinkweed. Gazelle rye was the most advanced and tallest crop amongst the four crop types. Tyndal triticale is a short stature variety which is an advantage under fertile, moist conditions to resist lodging. Triticale yields may have been reduced due to a lack of tillering. Triticale requires a higher seeding rate because the crop does not tiller like most other cereals.

Crop Type	CDC Cowboy Barley	Pinnacle Oats	Gazelle Rye	Tyndal Triticale
Thousand kernel weight of seed (g)	55.9	36.5	30.9	40.9
Seedling emergence (plants/m²)	151	154	199	155
Greenfeed yield (ton/ac)	2.16	2.06	1.71	1.50

FOR MORE INFORMATION

- Contact Gary Kruger, Irrigation Agrologist, at (306) 867-5524.

The upper Qu'Appelle water supply project

by John Linsley, PAg
Manager
Irrigation Branch

In the 1958 Memorandum of Agreement, the Gardiner Dam and Lake Diefenbaker were built to provide facilities for *"the irrigation of approximately 500,000 acres of land in central Saskatchewan and in the Qu'Appelle Valley and to provide other benefits to the area including a source of hydroelectric power, a source of rural and urban water supply, flood control and recreation facilities."*

To date, Saskatchewan has developed 100,000 acres of irrigated land. However, Saskatchewan's unfinished business with Lake Diefenbaker just took a step forward. The former South Central Enterprise Region released an economic study of The Upper Qu'Appelle Water Supply Project. This project would move water via canal from Lake Diefenbaker to Buffalo Pound Lake.

Increased water flow into Buffalo Pound Lake could expand irrigation from Lake Diefenbaker by more than 100,000 acres and meet the rapidly increasing needs of the Moose Jaw-Regina Industrial Corridor, including expansion of the Mosaic potash solution mine and the construction of the new K+S solution mine. It would also provide increased water supplies for environmental and recreational needs downstream in the Qu'Appelle River Valley.

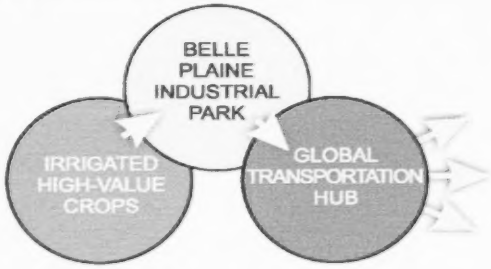
Saskatchewan has been studying options to increase the water flow into Buffalo Pound Lake for several years. The Water Security Agency's most recent study in 2009, recommended that the multi-purpose upland canal proceed to the next stage of investigation based on the costs, environmental considerations, implementation period and the maximized benefits of this option.

The completion of the Upper Qu'Appelle Water Supply Project would provide more than 100,000 acres of irrigated land for producing high-value crops, such as beans, potatoes and other vegetables. The land producing these crops would be adjacent to the Moose Jaw-Regina Industrial Corridor, with its Industrial Park at Belle Plaine for value-added processing. The value-added products would then move to the nearby Global Transportation Hub, a 2,000 acre development that is ideally situated for quick turnaround and efficient transportation to connecting points across North America.

This project would offer a major investment opportunity for agriculturally-based businesses to re-locate from regions where land and water supplies are becoming increasingly scarce and prohibitively expensive, to a location with water supplies, processing facilities and global export capabilities.

FOR MORE INFORMATION

- Contact John Linsley, Manager, Irrigation Branch at (306) 867-5527; or
- Visit www.irrigationsaskatchewan.com.



IRRIGATION CROP VARIETIES FOR 2013

by Gerry Gross, PAg
Senior Irrigation Agrologist
Irrigation Branch

The Canada Saskatchewan Irrigation Diversification Centre (CSIDC) and the Irrigation Crop Diversification Corporation (ICDC) provide ongoing variety testing of field crops for irrigation in Saskatchewan.

The 2013 Crop Varieties for Irrigation publication was released at the Crop Production Show in January. A brief summary of the variety information provided for 2013 can be seen in the table to the right.

Information on fababeans, soybeans, corn, annual cereal forages, alfalfa and potatoes is also included in the publication.

To view the 2013 Crop Varieties for Irrigation visit www.irrigationsaskatchewan.com. For a copy of the publication call CSIDC at (306) 867-5400 or the Irrigation Branch at (306) 867-5500.

Crop	Check Variety	Findings
Canola	45H21	Twenty varieties surpassed the check. Varieties out-yielded the check by two to 15 per cent. Eight Liberty Link and Roundup Ready varieties exceeded the check by more than 10 per cent in yield.
Flax	CDC Bethune	Prairie Thunder matched the check in yield.
Spring Wheat	AC Barrie	Newer varieties exceeding the check by up to 15 per cent in yield. New midge tolerant varieties and some varieties which have better Fusarium Head Blight resistance are performing well in the trials. Growers are advised to select a variety from the list which addresses their needs relative to disease and insect pressure.
Barley	AC Metcalfe	Limited testing of a number of new varieties has resulted in some very high yields in the trials, exceeding the check by up to 16 per cent. Growers are advised to select a malting accepted variety or a feed barley variety that demonstrates good lodging resistance in the trials.
Field Pea	Cutlass	Sixteen yellow and six green pea varieties surpassed the check. Only Semi leafless varieties are recommended for irrigation, as normal leaf varieties have a greater potential for disease development within the thick canopy. Varieties rated good for lodging are better suited for irrigation.
Dry Bean	Winchester	The Pinto variety AC Island and CDC WM-2 and Medicine Hat performed well. Pinto beans are the main bean crop produced on irrigation in Saskatchewan. Black, Great Northern, Pink and Small Red dry bean varieties are also being evaluated at CSIDC. Wide row dry bean trials are of particular interest to Saskatchewan's irrigators as that is the production system best suited for irrigation.

Breeding goals: Do you know yours?

by Kim McLean, PhD, PAg
Regional Livestock Specialist, Tisdale
Regional Services Branch

Have you ever sat back and really thought about what your plans for your cow herd are? In the fall, do you often think: "I should have done something differently"? When shopping for bulls in the spring, it is easy to get caught up in wanting the biggest and best bull that money can buy, but you need to ask yourself, does this bull actually meet my needs to improve my herd?

Breeding goals are essential to improving your herd.

It is important to take stock and think about what characteristics would improve your herd. Depending on the end goal for your calves, you will have different requirements. If you want to sell at weaning, uniformity or increased weights may be a consideration. Raising replacement heifers, your focus may be on maternal traits, and if selling bulls, scrotal development or yearling weights are important traits to consider. As an industry, it is safe to say that we all want more meat produced per calf. Individually, how you go about this may be a bit different from your neighbour.

When it comes to bull selection, there are three main strategies. You could select a bull who meets requirements individually for certain traits, select multiple traits using an index with different weighting on the traits you deem important, or you may select in tandem for one trait this year and another next year. Your breeding pastures may also influence bull selection, especially between heifer and cow pastures.

When selecting bulls, it is important to keep your main goal in mind. If it helps, write it down as you go through the catalogues. Once you have made your decision and bring the bull home, you can set up the best mating scheme to compliment your cow herd. If you have clear-cut goals, you have a higher chance to succeed at improving your cow herd over time. Remember, change does not happen overnight.

FOR MORE INFORMATION

- Contact Kim McLean, Regional Livestock Specialist at (306) 878-8847; or
- Call the Agriculture Knowledge Centre at 1-866-457-2377; or
- Visit www.agriculture.gov.sk.ca.

HOW TO HAVE YOUR CATTLE TESTED FOR BSE

by Dr. Wendy Wilkins, DVM, PhD
Disease Surveillance Veterinarian
Livestock Branch

Currently, Canadian producers have international market access because we have demonstrated a low and declining level of BSE through participation in BSE testing. This participation has declined over recent years. Protect your most important investment, your cattle herd, by testing your eligible animals for BSE.

If you think your animal is eligible for BSE testing, take the following steps:

Step 1: Ensure that the animal is over 30 months old and dead, down, chronically ill (diseased) or otherwise unfit for transport.

Step 2: Contact your local veterinarian, the Canadian Food Inspection Agency (CFIA) district office or the BSE hotline at 1-877-727-5273 to arrange for testing. CFIA does not charge, but sample collection is limited to regular working hours. Private veterinarians are reimbursed $100 by the National BSE program, but may charge extra for mileage and/or calls after hours.

Step 3: Whoever collects the sample will request information on the animal's history and basic farm information. They will also arrange a time to collect the sample at your farm.

Step 4: Upon arrival at your farm, a history of any illness, animal identification and age will be requested.

Step 5: You will be asked to sign a contract stating that you agree to control the carcass until test results are received. In return, for every eligible sample, you will receive $75.

Step 6: The veterinary clinic or CFIA inspector will remove the animal's head and collect the necessary part of the brain.

Step 7: The sample is sent to a lab for testing.

Step 8: Within two weeks, you should be contacted with the test results.

Step 9: If results are negative, no further action is required.

If results are positive, the carcass will be collected by CFIA for further sampling and destruction. It is important to note that if an animal is found with BSE, your entire herd will not be depopulated. Other animals from the animal's birth herd born a year before and after the positive animal and fed the same feed supplement in the first year of life will be traced, quarantined and destroyed with compensation at market value.

FOR MORE INFORMATION

- Phone Canadian Food Inspection Agency (CFIA) at 1-877-727-5273;
- Visit www.inspection.gc.ca;
- Phone the Agriculture Knowledge Centre at 1-866-457-237; or
- Visit www.agriculture.gov.sk.ca/BSE.

Preventing scours at calving

by Kathryn Ross, BSA, MSc, AAg
Animal Health Program Officer
Livestock Branch

Scours is a common diarrheal disease in young calves that causes acute dehydration and death or persistent diarrhea for several days leading to malnutrition and emaciation. Scours can be caused by many different pathogens, including bacteria (*Escherichia coli* and *Salmonella*), viruses (Rotavirus and Coronavirus), and protozoa (*Cryptosporidium*). Other causes of diarrhea can include feeding large amounts of milk or incorrectly formulated milk replacer to calves.

Ensuring adequate colostrum intake is one step in improving immunity against scours.

Below are three management practices that can help reduce the incidence of scours in young calves:

- Isolating sick animals and calving in a clean area can help decrease the calf's exposure to disease-causing organisms.
- Good nutrition to the cow is critical to ensure a healthy and viable calf and colostrum is of the utmost importance to the calf. Colostrum is critical because it provides the calf with immunoglobulins which provide protection to the calf against diseases. Calves that are colostrum-deprived are highly susceptible to infection and typically develop severe disease and die. It is critical that a calf consumes greater than five per cent of their body weight of high quality colostrum within six hours of their birth and drinking continues at that level for 48 hours.
- Vaccinations are also available to boost the calf's immunity to scours. Due to the variety of pathogens that cause scours, different vaccines are available. If *Escherichia coli* is the organism of concern, vaccines are available for cows and should be administered at intervals of six weeks and three weeks prior to birth of the calf. *Escherichia coli* vaccines can also be administered to calves orally, at birth or within 12 hours. Rotavirus and Coronavirus vaccines are available for pregnant cows and they should receive their first dose several months after conception and a second dose the month prior to birth of the calf. Vaccination in cows does increase antibodies in colostrum; however, results on improving the calf's immunity have been variable. It is recommended to either vaccinate the calf or the cow, never both as this can cause complications in the calf.

FOR MORE INFORMATION

- Please contact your local veterinarian for guidance specific to your operation.

Reference: The *Merck Veterinary Manual. 2012. Diarrhea in Neonatal Ruminants.* www.merckmanuals.com/vet/digestive_system/intestinal_diseases_in_ruminants/diarrhea_in_neonatal_ruminants.html (Accessed January 16, 2013).

CONTROL RUN-OFF AND KEEP CORRALS DRY IN THE SPRING

by Teddi Dear
Provincial Livestock Engineer (Engineer-In-Training)
Livestock Branch

and

Cory Wensley
Provincial Livestock Engineer (Engineer-In-Training)
Livestock Branch

Spring is fast approaching and, with the amount of snow we have had this year, many producers may experience issues with run-off and flooding in their yard or livestock areas.

Control structures such as berms or ditching can be constructed to divert run-off away from your yard or corrals; however, any earth work or trenching done before or during the snow melt will likely be a temporary solution as it is difficult to properly compact frozen soils. As the snow melts, take note of areas where water pools or backs up. This will help identify where run-off controls or re-grading are necessary. This work will need to be completed later in the season when the soil moisture allows for construction.

Keeping pens dry will help to improve the health and welfare of animals, as well as reduce the likelihood of pen damage. There are several things a producer can do to improve pen moisture, the most important being to limit the amount of run-off coming in from areas up-slope of the corrals. Cleaning pens annually is also important as this bedding material will act like a sponge, lengthening the time it will take pens to dry out. Re-grading within a pen and removing low spots will also help; a slope of three per cent or more is recommended to move water effectively.

It is important to prevent run-off from livestock areas from entering water courses. Redirect clean run-off away from corrals and collect manure-impacted run-off from livestock areas in a holding pond or depression that is not connected to a larger drainage system.

If you plan on diverting run-off, check with the Water Security Agency and your local municipality as some drainage activities require regulatory approval. Notify the RM if you notice culverts that aren't draining as they should.

FOR MORE INFORMATION

- Contact the Agricultural Operations Unit at (306) 787-4680; or
- Call the Agriculture Knowledge Centre at 1-866-457-2377.

Keeping run-off away from corrals may be challenging this year due to heavy snowfall.

Managing livestock mortalities in the spring

by Andy Jansen, PEng
Manager, Agricultural Operations
Livestock Branch

Death losses are an unfortunate reality for livestock producers. Managing mortalities – disposing of the carcasses – properly and quickly is important to minimize problems such as flies, odour, scavengers, disease and water contamination.

It is important to dispose of carcasses quickly in the spring because they will begin to decompose in the heat. Springtime mortality management can be difficult, however, as thawing ground may be too soft for the excavating equipment and standing water may prevent access to carcasses and/or disposal locations. As well, spring run-off can significantly increase the possibility of water contamination.

Recently turned mortality compost bin.

Proper planning to reduce the logistical and environmental problems will make it much easier to dispose of winter losses in the spring:

- Before the snow falls, prepare a temporary mortality storage/ disposal site. This location should be on high ground and have all-weather access. Keeping the site and the access route(s) clear of snow during the winter will reduce the duration of muddy conditions in the spring.
- If a geologically suitable burial site has been identified, have a pre-excavated pit and cover material on hand so you can easily dispose of the carcasses. Set up a barrier or fence around the pit to ensure animals or people do not accidentally fall in.
- If you plan on composting, ensure you have sufficient bulking and cover material (straw, manure and/or sawdust). Fence off or cover the area to keep scavengers out of the compost. Ensure that run-off from the compost area will not enter waterways or leave the farm property.
- If you plan on sending the carcasses for rendering, make pickup arrangements with the renderer as quickly as possible.

There are steps to take that should eliminate the most obvious threats to your livestock's safety. Keep your cattle away from sloughs and dugouts as much as possible to prevent drowning. Providing remote watering sites should prevent animals from falling through the ice or getting trapped in mud. For the same reasons, keep feeding sites away from low-lying areas that are subject to flooding. Immediately remove any dead animal found lying in a flowing stream or any other water course.

Having a plan to deal with inevitable losses is just good farm management.

FOR MORE INFORMATION

- Visit www.agriculture.gov.sk.ca/mortalities.

OUTLOOK GOOD FOR 2013 BEEF CATTLE MARKET

by Grant Zalinko, PAg
Provincial Cattle Analyst
Livestock Branch

The 2013 beef cattle market is going to be very interesting as fundamental factors such as declining North American cattle inventories, lower domestic beef production and increased global demand for beef support higher market prices for all classes of cattle. While these factors are important, there are other underlying factors that also need to be monitored in the context of establishing cattle prices this year.

Retail beef prices are expected to increase six to eight per cent in 2013 due to higher feed costs and tight cattle supplies (University of Guelph- Food Price Index 2013). It seems obvious that increased production costs need to be passed on to end users, but protein consumption is sensitive to disposable consumer income. Continued improvement in employment and economic conditions in North America would support higher cattle prices.

Feed grain prices increased significantly during 2012 as the widespread U.S. drought reduced corn production. Assuming that there is some improvement in moisture conditions, it is anticipated that a record number of acres will be seeded to corn, which could pressure feed grain prices lower. Improved moisture conditions could also encourage cow-calf producers to retain replacement heifers for breeding, which could further reduce supplies of feeder cattle during 2013.

In terms of expanded trade opportunities, there are two important issues that are worth monitoring. First, the U.S. has been given until May 23, 2013, to bring its mandatory country-of-origin labelling (COOL) law into compliance with international trade obligations. This could reduce the negative effects of this legislation that began in September 2008. Second, as of February 1, 2013, the Government of Canada has reached an agreement with Japan to expand market access to Canadian beef from animals under 30 months of age from the current under 21 months of age restriction.

Saskatchewan's beef cattle producers should look forward to 2013 with optimism.

I can't emphasize enough the importance of research and innovation in agriculture. Early Saskatchewan agriculture pioneers came from around the globe and learned how to farm and ranch in our extreme weather conditions. Immediately, they began to innovate out of necessity and we've continued to develop, adopt new methods and incorporate new technologies to agriculture for continued productivity and profitability.

I continue to be amazed by the research undertaken from the farmgate to the province's research institutions. Our government continues to be committed to innovation in agriculture by investing in research programs like the Agriculture Development Fund and large-scale projects like the Global Institute for Food Security.

Saskatchewan is a leader and a visionary in agricultural research and innovation and I am proud to support it.

Lyle Stewart

Agriculture Development Fund: from lab to field

by Sidney Friesen
Manager, Research Unit
Agriculture Research Branch

One of the goals contained in the Saskatchewan Plan for Growth is to increase annual crop production by 10 million tonnes by 2020. Another goal is to increase exports of agricultural and food products from $10 billion in 2011 to $15 billion by 2020. Achieving these targets requires the agriculture industry to have access to the knowledge and innovation created when scientists address emerging issues and difficult challenges that otherwise stand in the way of progress and ground-breaking developments within the sector. The Ministry's Agriculture Development Fund (ADF) allows this to take place.

More than $57 million in research funding has been provided through ADF since 2007. The program makes efficient use of Saskatchewan's research and development infrastructure by supporting projects that allow for the long-term economic development of Saskatchewan's agriculture and food industry. Program Managers in Saskatchewan Agriculture's Research Branch are a key part of the comprehensive process that is undertaken each year to evaluate project proposals, while the ADF Advisory Committee makes recommendations to the Minister of Agriculture on which projects should be approved. The ADF Advisory Committee is comprised of six producer members and three senior Ministry officials.

These recommendations are normally based on an alignment of the projects' objectives with the strategic direction of the Ministry and whether the project would help address emerging issues identified by industry. Care is also taken to avoid funding research that may be a duplication of work that has taken place previously, or in other jurisdictions. The next deadline for ADF Letters-of-Intent will be in mid-April 2013.

This past January, Agriculture Minister Lyle Stewart announced funding for 61 new ADF projects, almost all of which are being conducted right here in Saskatchewan. What is quite significant about this year's projects is the degree of co-funding being provided by funding partners. While the Ministry of Agriculture has committed nearly $10 million in financial support for these projects, an additional $3 million is coming from co-funders. These include the Western Grains Research Foundation which is contributing over $2.5 million, along with contributions from the Saskatchewan Pulse Growers, Saskatchewan Canola Development Commission and Saskatchewan Oat Development Commission. It should be noted that approved projects will also attract more than $8 million in cash and in-kind support from commodity organizations and other partners.

While the University of Saskatchewan and its affiliated research centres are conducting most of the projects, the research is actually being carried out by a variety of both private and public institutions. Ten of the projects are being led by various researchers at Agriculture and Agri-Food Canada, while private entities such as Alliance Grain Traders, Ecotech Research Ltd. and Bioriginal Food and Science Corp. are also valued partners in this area. Commodity organizations are actually taking a lead on several projects although the research itself is still being conducted by scientific experts in the relevant fields.

As would be expected, there is a solid core of projects that are focused on increasing yields and improving disease resistance in the various cereal, oilseed and pulse crops for which Saskatchewan is most known. However, the scope of projects funded is much broader, including areas such as:

- Enhancing the nutritional value of crops;
- Dealing with crop processing challenges;
- Converting various agricultural feedstocks into energy sources;
- Weed management;
- Identifying superior strains of rhizobia for optimum nitrogen fixation in pulse crops;
- Development of vaccines to address emerging animal health concerns in cattle, swine, elk and chickens;
- Improved animal nutrition; and
- Development of new varieties of forages and grasses.

ADF projects launched in 2013

EFFICIENT ANTIBIOTICS IN PIG FEED

It's well-known that weaning is a stressful time in a pig's life. One of the most common practices used by the swine industry to help piglets through this stage is to add antibiotics to their diet. However, there are indications that the use of in-feed antibiotics could become more restricted in North America; in some countries, the use of certain antibiotics has been banned entirely.

This is why Laura Eastwood from the Prairie Swine Centre, along with two collaborators, will be receiving ADF funding over the next two years. They will conduct trials to determine if feeding sows diets enriched with omega-3 fatty acids can replace the use of antibiotics in starter diets when piglets are three or four weeks of age. Flaxseed will be used as the primary source of the omega-3 fatty acids.

The results of their research project could help the swine industry become more competitive in global markets, while providing the flax industry with a further marketplace opportunity. It is for this reason that the Western Grains Research Foundation is co-funding this project. The Saskatchewan Pork Development Board is also providing some funds, while flax producers have indicated a keen interest in the findings that may flow out of this project.

GENETIC RESEARCH FOR HEALTHIER OATS

Oat beta-glucan is a soluble fibre that has gained increasing recognition for its ability to lower blood plasma cholesterol levels. Unfortunately, the molecular mechanism involved in the synthesis of beta-glucan in oat is not as well-understood. An ADF project led by Dr. Xiao Qiu from the University of Saskatchewan's Department of Food and Bioproduct Sciences will address this problem by developing functional DNA markers that reside in the coding region of beta-glucan biosynthetic genes.

The information generated through this project will be directly applied within the oat breeding program at the Crop Development Centre. Eventually, this could lead to oat genotypes with beta-glucan content being released as varieties for commercial production. This project is co-funded by Western Grains Research Foundation and also supported financially by the Prairie Oat Growers Association.

IMPROVING THE CANADIAN DIET

Health Canada contends Canadians consume almost twice their daily salt requirement. The result is an economic drain on our healthcare system in the form of increased incidences of cardiovascular disease and stroke. Health Canada's Sodium Reduction Strategy addresses this situation by setting a goal to reduce average daily sodium intake to 2,300 mg by 2016. To reach this goal, the food industry has established a benchmark to reduce sodium levels in bread from a current average of 469 mg/100 g to 330 mg/100 g.

This, however, creates a significant processing challenge for a baking industry that has long-established technical practices that assumed sodium levels of two per cent and higher. Lower sodium levels create "dough stickiness" issues. As a result, ADF is funding a three-year project by Dr. Michael Nickerson of the Department of Food and Bioproduct Sciences at the University of Saskatchewan, along with three of his colleagues, to develop industry-ready strategies for combatting "dough stickiness" in the processing of low-sodium breads.

The results from this research could provide an obvious benefit for consumers. However, producers would also benefit if certain wheat varieties are identified as being good performers in a low-salt environment. And, of course, bakeries would benefit from bread sales to a consumer market that is increasingly health-focused. Recognizing the potential value of this work, this project is co-funded by the Western Grains Research Foundation and financially-supported by the Canada Bread Company.

Dr. Roger Beachy to lead Global Institute for Food Security

The Global Institute for Food Security (GIFS) is pleased to announce Dr. Roger Beachy has recently been appointed to lead the Institute as its founding Executive Director and CEO.

Among his many accolades, the former Chief Scientist of the United States Department of Agriculture has worked on research projects that led to the development of the world's first genetically modified food crop, a variety of tomato modified for resistance to viral diseases. His work in food crops, production agriculture and the applications of biotechnology in agriculture, nutrition and human health will be a great asset to the Institute.

This is not the first time Dr. Beachy has been tapped to lead a major initiative. He was also the founding President of the Donald Danforth Plant Science Centre in St. Louis, Missouri. The Centre's mission is to improve the human condition through plant science. Dr. Beachy's work and expertise in the field of plant sciences, molecular biology and biotechnology, and his experiences in institution building and policy development will ensure a solid foundation for GIFS.

Researchers and economic enterprises in the private and public sector in Saskatchewan are focused on working together, taking the lead and developing new ways and ideas to provide a growing world with food. Instead of working in small corners, with limited resources, the door is now open for the world's greatest minds to use GIFS as a centre of excellence for crop research and food production.

Dr. Beachy is deeply committed to research excellence and improving food security for people around the world.

FOR MORE INFORMATION

- Visit www.globalinstituteforfoodsecurity.org.

EVALUATING THE EFFECTIVENESS OF POD-SEALANTS ON THE YIELD OF STRAIGHT-COMBINED CANOLA ON A LARGE FIELD

Field trials were conducted in 2010 and 2011 near Indian Head, Saskatchewan to evaluate the effects of pod-sealants and pre-harvest glyphosate application on shattering losses and seed yields in straight combined canola. Each plot had an approximate area of two acres and commercial field-scale equipment was used for all field operations.

The treatments included two harvest methods (swathed or straight-combined) and four pre-harvest treatments (untreated, pod sealant, glyphosate or pod sealant plus glyphosate). Consistent with previous findings, pod sealants did not provide a yield benefit over untreated canola regardless of harvest treatment. The effect of glyphosate was not consistent from one year to the next with lower yields observed in 2010 and a tendency for higher yields with glyphosate in 2011. Glyphosate combined with a pod-sealant produced similar results as glyphosate applied on its own.

While there is a risk of increased seed loss with straight-combining, this project could not show a significant benefit to using a pod-sealant. Pre-harvest glyphosate may have benefits when straight-combining non-resistant cultivars as it accelerates maturity and evens out variable fields.

Further detail on this ADOPT project (20100350) can be obtained by contacting the Saskatchewan Canola Development Commission or viewing the project final report at www.agriculture.gov.sk.ca/ADOPTsearch.

Strategic Research Program: Advancing innovation

by Sidney Friesen
Manager, Research Unit
Agriculture Research Branch

Through the Strategic Research Program (SRP), the Ministry of Agriculture provides funding to cover the salaries of 15 Research Chairs and their technicians. Thirteen of these Chairs operate within the College of Agriculture and BioResources and the College of Engineering at the University of Saskatchewan, while two are stationed at the Western Beef Development Centre. These Chairs are created in areas of strategic importance to our agriculture industry and where the province lacks research expertise.

Having this core group of publicly-funded research scientists in place allows for exploration, assessment and development of innovative ideas for advancement of the agricultural sector. Researchers do this by developing new knowledge, technologies and crop varieties suited to Saskatchewan growing conditions. Some examples of these include:

Dr. Michael Nickerson
Protein Quality and Utilization

Dr. Nickerson's work with plant proteins derived from Saskatchewan crops is filling a market gap as a result of consumer demand for healthier foods and the need for an alternative for more costly animal-derived ingredients.

Dr. Peiqiang Yu
Feed Research and Development

Among other projects, Dr. Yu is working on the potential development of a modified alfalfa which would produce optimal amounts of proanthocyanidins. These are protein complexes that help prevent bloat when the forage is consumed and progress in this area could hold significant benefits for the Saskatchewan livestock industry.

Dr. Pierre Hucl
CWRS Wheat, Specialty Wheats and Canary seed Breeding and Genetics

One of Dr. Hucl's projects aims to develop higher-yielding hard white wheat cultivars with higher protein content and stronger dough properties.

Dr. Sabine Banniza
Pulse Crop Pathology

Dr. Banniza's pulse crop pathology program will lead to a better understanding of host-pathogen systems in pulse crops and thereby allow for the successful long-term deployment of resistance genes and the continued efficacy of disease management strategies.

Dr. Helen Booker
Flax Breeding and Genetics

One of the objectives of Dr. Booker's program is to develop dual purpose flax lines that have enhanced straw fibre concentrations so both seed and straw create value throughout the value chain in the areas of human health, animal health, fibre and industrial uses.

Dr. Aaron Beattie
Barley and Oat Breeding and Genetics

Dr. Beattie's work with cereal crops is leading to the development of oat varieties with higher beta-glucan content and barley cultivars that maximize producer profitability as a result of improved yield, disease resistance and superior malting quality.

Dr. Randy Kutcher
Cereal and Flax Crop Pathology

As one of the more recently recruited SRP Chairs, Dr. Kutcher's program pursues an understanding of host-pathogen genetic interactions between specific plant pathogens and various species of cereals and flax.

Dr. Tom Warkentin
Field Pea Breeding and Genetics

Dr. Warkentin's field pea breeding program aims to increase economic returns to producers through the development of cultivars with higher yields and improved disease resistance.

Dr. Martin Reaney
Lipid Quality and Utilization

Dr. Reaney has worked extensively with Milligan Biotechnology to produce superior biodiesel products from oilseeds.

Dr. Curtis Pozniak
Durum and High-Yield Wheat Breeding and Genetics

Some of the objectives in Dr. Pozniak's durum breeding program include improved resistance to pests like orange blossom wheat midge, wheat stem sawfly, leaf spotting diseases and Fusarium head blight.

Dr. Diane Knight and Dr. Richard Farrell
Soil Biological Processes

One of the areas of focus for Dr. Knight and Dr. Farrell has been to investigate nutrient management approaches by determining how different crops respond to inoculation in both conventional and organic soils.

Dr. Jeff Schoenau
Soil Nutrient Management

The knowledge derived from Dr. Schoenau's research is disseminated to industry and results in the identification of manure management practices that are both economically and environmentally sound. Recently, Dr. Schoenau was recognized for his longstanding contributions to soil conservation research by being awarded the 2011 Award of Merit by the Saskatchewan Soil Conservation Association.

Dr. Bart Lardner
Cow-Calf and Forage Systems

One of the areas of focus for Dr. Lardner is to evaluate alternative forages and co-products in beef cow feeding systems with a view to minimizing negative effects on reproductive efficiency while reducing production costs.

Ms. Kathy Larson
Cow-Calf and Forage Systems

YouTube videos are one of the tools Kathy Larson uses to effectively disseminate knowledge to cow-calf producers on economic strategies designed to maximize herd profitability.

The SRP was first established in 1986 as a way to ensure stable funding was available to facilitate the recruitment and retention of the best research personnel for Saskatchewan. In turn, the Chairs themselves are responsible for attracting project funding from other public and private sector organizations to help support their respective research programs. More information is available at www.agriculture.gov.sk.ca/Strategic_Research_Programs.

Agriculture-Applied Research Management Program: Agri-ARM sites and home-grown findings

by Jeff Braidek, PAg, PhD
Program Manager
Agriculture Research Branch

In January, five producer-led Agriculture-Applied Research Management Program (Agri-ARM) groups provided a brief look at some of the research and demonstration work they have undertaken over the past couple of years. The day-long meeting was held in conjunction with the annual Crop Production Week activities in Saskatoon.

Like all Saskatchewan-based producer groups, Agri-ARM sites are eligible for funding through the Agriculture Development of Practices and Technologies (ADOPT) program to off-set the costs of demonstration projects intended to help producers evaluate new agricultural practices and technologies at the local level. While the majority of the Agri-ARM groups maintain a home site for plot work, many of the projects are run off-site with the co-operation and assistance of local producers.

Since 2009, producer groups have had ADOPT funding approved for 278 projects; a full 50 per cent of these approved projects were submitted by Agri-ARM groups. Five of the six presentations given at the Research Update in Saskatoon drew heavily on the results of ADOPT funded projects.

The Wheatland Conservation Area reported on:

1. Demonstrating the salt tolerance of hybrid canola. Their results found that some hybrid canolas have similar salinity tolerances to that of barley and may provide a real cropping option; and

2. Evaluating improved straight cutting techniques in oilseeds. The group evaluated three headers and header-extensions to assess yield loss and collected yield.

The Western Applied Research Corporation presentation titled Field Pea Input Optimization reported on work done at multiple sites to evaluate the combined impact of seeding rate, fungicide seed treatment, granular inoculant, starter fertilizer and foliar fungicides on the yield of field pea. This work is on-going and results are preliminary at this time.

The Indian Head Research Foundation presented on:

1. Hints and strategies for straight-combining canola. In this presentation, they discussed the results from multiple sites and projects evaluating pod sealants, header cutters, swathing versus straight-cutting, and the comparison of canola varieties with respect to pod shattering; and

2. New insights into natural aeration grain drying. Work looked promising on research into the use of unheated cooler air and smaller fans to efficiently dry grain at lower cost.

The Irrigation Crop Diversification Corporation presented on soil fertility in Saskatchewan irrigation. Their observations on soil fertility and fertilization projects suggest that producers should use soil and plant tissue testing to ensure that production-limiting nutrients are identified.

The Northeast Agriculture Research Foundation reported on the potential of precision seeding. They presented the combined results of multiple studies from five Agri-ARM partners evaluating seeding depth, seeding rate and row-spacing for canola. Results are preliminary at this time.

Information on the Agri-ARM program is available at www.agriculture.gov.sk.ca/Agri-ARM. Further information on the ADOPT program is available at www.agriculture.gov.sk.ca/ADOPT.

A COMPARISON OF CHEMICAL AND BIOLOGICAL CONTROL OF SCENTLESS CHAMOMILE IN HAY AND PASTURE STANDS

In the spring of 2011, the Saskatchewan Forage Council, in co-operation with local producers, undertook this project to demonstrate and compare the relative effectiveness of various chemical and biological control strategies for scentless chamomile in established perennial forage stands near Denzil, Coleville, and Watrous, Saskatchewan.

At each of the three sites, treatments included three chemical controls: Refine-M Solumax (DuPont), Restore (Dow AgroSciences Ltd), and Reclaim (Dow AgroSciences Ltd), and two biological controls: stem gall midge (Rhopalamyia tripleurospermi) and seed head feeding weevils (Omphalapion hookeri). Biological agents were supplied by the Invasive Alien Plants Stewardship Advisor with Saskatchewan Association of Rural Municipalities.

Initial results indicated that the herbicides showed good to excellent control of the scentless camomile but did result in strongly suppressing or killing any alfalfa in the forage blend. By 2012, there was no evidence to suggest that the stem gall midge or seed head feeding weevils were controlling the scentless chamomile.

To gain a better understanding of how these products perform, plots will continue to be monitored over the next couple of years.

Further detail on this ADOPT project (#20100364) can be obtained by contacting the Saskatchewan Forage Council or viewing the project final report at www.agriculture.gov.sk.ca/ADFresearch.

Pyrolysis: turning agricultural residue into a resource

Saskatchewan produces tremendous amounts of crop and livestock residue over the course of a crop year. In most cases, it is seen as a problem to be managed rather than a resource to be exploited. But what if that residue could be used to heat our homes or even fuel our vehicles?

Previous research, including some by the University of Saskatchewan, has shown that agricultural residue can be turned into fuels, fertilizers and industrial chemicals through a process called pyrolysis (see another article in the March 2011 issue of *Agriview*).

Humanity has used "slow" pyrolysis for thousands of years to produce charcoal by heating wood to a low temperature for many hours or days. Modern technology has made "fast" pyrolysis possible whereby the feedstock is superheated to temperatures up to 800C for a few seconds and then rapidly cooled. The result is a bio-oil, a gaseous fuel and a granular biochar.

Researchers at the Saskatchewan Research Council (SRC) – with the financial backing of the Agriculture Development Fund – wanted to find a way to make this technology work for Saskatchewan producers. They wanted to know if the existing technology could operate practically on a small enough scale to make it viable for a small community or perhaps an intensive livestock operation or even a family farm. In addition, they wanted to see if the technology could be made small enough to mount on a flatbed trailer, which could open up the possibility of a single unit being used by a number of operations and transported from site to site. They also wanted to know which agricultural residues made good pyrolysis feedstocks and the heating value and chemical composition of the various products in order to evaluate their potential for a variety of uses such as in fuels, chemical products and fertilizers.

Any organic material can be used for pyrolysis, but it was decided that, under Saskatchewan conditions, wheat straw, flax shives, poultry waste and dried distiller's grain and soluble (DDGS) had the most potential as feedstocks.

After several months of installing and fine-tuning an ABRI-Tech Inc. (Namur, Que.) pyrolysis unit, the researchers began heating the residues to different temperatures and for different lengths of time. They quickly discovered that the DDGS selected for the trial was unsuitable for pyrolysis using this equipment. Of the three remaining feedstocks, the researchers determined that:

- Flax and wheat straw produced the best bio-oil for potential use as a heating fuel;
- Poultry waste pyrolyzed at 550C produced the best bio-oil for further processing into transportation fuel;
- Flax straw pyrolyzed at 550C produced the best fuel char (ie charcoal), and
- All the residues produced char suitable for use as a soil amendment.

They also found that the bio-oil could be used in the production of a variety of valuable industrial chemicals such as sealants, resins and plastics.

Other chemicals in the bio-oil are used in the production of a variety of agrichemicals and pharmaceuticals, including anti-bacterial and anti-viral drugs and antihistamines.

While the science behind "fast" pyrolysis is proven, the researchers concluded that the economics of the existing pyrolysis technology for small-scale mobile use needs improvement. The capital cost of the equipment is still too high and the value of the products still too low. That could easily change if:

- The price of transportation and heating fuel increased;
- Inexpensive new methods of upgrading the bio-oil are developed;
- A strong market for biochar as a soil amendment is developed; or
- The technology is modified to increase capacity and yields of high-value products.

The technology is not yet ready for wide-scale adoption, but the time is clearly approaching when Saskatchewan farmers could be producing their own oil to heat their homes, their own bio-diesel to power their equipment and their own fertilizer to amend their soils.

SRC (www.src.sk.ca) is a leading Canadian provider of applied research, development and demonstration, and technology commercialization. With 400 employees, over $79 million in annual revenue and 65 years of experience, SRC provides services and products to its 1,900 clients around the world.

The Agriculture Development Fund provides funding to institutions, companies and industry organizations to help them carry out research, development and value-added activities in the agriculture and agri-food sector. The results produce new knowledge, information and choices in technologies, techniques and varieties for farmers, ranchers, processors and input suppliers, to improve the competitiveness of Saskatchewan's agriculture sector.

In 2013, the Saskatchewan Ministry of Agriculture committed $9.9 million in new funding for 61 ADF research projects.

FOR MORE INFORMATION

- Visit the Saskatchewan Agriculture research reports page at www.agriculture.gov.sk.ca/ADD/Search.ht and enter the report number #20080154 into the search function.

A handful of biochar. Flax straw produced the best charcoal in this research study.

AgriStability program changes - what to expect for the 2013 program year

When the Growing Forward 2 (GF2) framework agreement for agriculture was signed by the federal-provincial-territorial ministers in September of 2012, changes were introduced to the AgriStability Program. The changes take effect for the 2013 program year and it is important producers take note of the coverage now available through AgriStability.

AgriStability is a margin-based program which allows producers to protect their farm operations against large declines in farm income. As a result of changes agreed to in GF2, governments are continuing to provide a share of the lost income; however, the protection/coverage offered through AgriStability for the 2013 program year will not be as high as in previous years. There are four key changes impacting the AgriStability Program:

1. Margin Coverage - AgriStability will now provide assistance when a participant's margin falls below 70 per cent of their reference margin. Previously participants received a benefit when their margin fell below 85 per cent of their reference margin or dropped more than 15 per cent. In 2013 your current year margin will need to be 30 per cent below your reference margin to access program benefits.

2. Harmonized Compensation Rates - A producer's payment will be based on the same level of government support (70 per cent), regardless of the extent of margin loss, including negative margins. Under the previous agreement, payments were based on a tiered system providing different levels of government support depending on the degree of margin loss.

3. Limited Reference Margins - A participant's reference margin (support level under the program) will be limited to the lower of their historical reference margin or allowable expenses. Although the way the margin is calculated did not change, using allowable income, expenses and accrual adjustments, the reference margin could be limited based on allowable expenses.

4. Reduced Program Fees - 2013 program fees will be adjusted to reflect the reduced coverage making AgriStability less expensive for producers. Fees will now be calculated based on a 70 per cent coverage level, not the 85 per cent level which is currently applied. Producers will notice the change in their fee when they receive their 2013 Enrolment/Fee Notices.

All program changes announced in GF2 are for the 2013 program year. The 2012 and prior program years will operate under the guidelines of the original Growing Forward agreement. It is important producers review the protection they have, not only through AgriStability but also the other business risk management programs, such as Crop Insurance and AgriInvest. SCIC has staff available throughout the 21 customer service offices across the province who can discuss your risk protection and make adjustments to fit your farm operation's needs.

FOR MORE INFORMATION

- Visit www.saskcropinsurance.com/agristability;
- Contact the AgriStability Call Centre at 1-866-270-8450; or
- Visit your local SCIC customer service office.

2013 CROP INSURANCE PROGRAM CONTINUES TO IMPROVE

The 2013 Crop Insurance Program announced in February offers record provincial funding and record coverage for producers, among other enhancements.

Funding for the 2013 Crop Insurance Program is $198 million. Coverage levels are also increasing to $194 per acre, on average, up from $174 per acre last year. This increase is largely due to the increase in crop prices.

Yield Trending

Yield trending simulates advancements in agriculture and applies them to a producer's historical yields. Advancements may include technology, equipment, agronomic practices and crop varieties. As a result, a producer's individual coverage will increase.

For 2013, hard red spring wheat, hard white spring wheat and oats yields have been adjusted due to yield trending. Yields for these crops will increase nine per cent, 7.8 per cent and 13 per cent, respectively. Yields from irrigated acres of these crops will also be trended.

Yields continue to be trended for canola, IP canola, fall rye and winter wheat. Since introduction in 2009, yield trending has led to an eight per cent increase in overall yield coverage.

Establishment Benefit Values

In 2013, Establishment Benefit values are increasing for canola, identity-preserved (IP) canola and field peas. Seeded acres of these crops that fail to establish this spring may be eligible for compensation. Values for canola and IP canola are increasing to $60 per acre, up from $50 per acre, and the benefit for field peas is increasing to $40 per acre, up from $35 per acre.

Expanded Insurable Areas

Producers seeding soybeans or corn will now be eligible for insurance coverage in more areas of the province. SCIC is expanding the original region for soybean coverage and is establishing a second region, having 85 per cent of the original region's coverage. More than half the province is now eligible for this insurance program.

Corn acreage in Saskatchewan is increasing as the crop continues to be used for grain, silage and feed. In 2013, 95 per cent of the corn grown in Saskatchewan will be eligible for the Corn Heat Unit Program, based on seeded acres in 2012.

Continuing improvements

The 2013 Crop Insurance Program also continues initiatives introduced in past years, including an increased Unseeded Acreage Benefit up to $100 per eligible acre, yield cushioning and 100 per cent wildlife damage compensation.

Your Crop Insurance contract is continuous. The deadline for you to apply for, make changes to or cancel your Crop Insurance contract is March 31, 2013. Under the Growing Forward 2 Agricultural Policy Framework, Crop Insurance is cost-shared on a 60:40 basis between the Government of Canada and Government of Saskatchewan.

FOR MORE INFORMATION

- Contact your local Crop Insurance office;
- Call 1-888-935-0000; or
- Visit www.saskcropinsurance.com.

Agriculture plastics recycling benefits us all

by Travis Quirk
Provincial Council of ADD Boards

and

by Tammy Myers
Moose Jaw River Watershed Stewards

Large plastic grain bags have become a common sight on the Saskatchewan landscape over the last decade. They have gained popularity for use in storing grain in an efficient and economical way and as an alternative to traditional structural storage facilities. Currently, Saskatchewan producers use approximately 15,000 bags annually. Bags are used only once, and when emptied, leave a large amount of plastic waste. Until recently, there were no suitable alternatives to dispose of this plastic in an environmentally responsible way, and the plastic was often discarded either on farms or in landfills, or in some cases burned. Grain bags typically have some remaining waste or spoiled grain within the plastic, and therefore tend to attract pests. Burning of the grain bags is illegal and unhealthy.

In 2010, a pilot collection of grain bags and twine was initiated in Milestone, Saskatchewan, by the Moose Jaw River Watershed Stewards and the Rural Municipality of Caledonia. Since the spring of 2011, the Provincial Council of ADD Boards (PCAB) has been running an Agricultural Plastics Recycling Pilot Project, funded through the federal-provincial Growing Forward framework. Sites were selected across the province to help collect agricultural plastics, including Unity, Prince Albert, Kelvington, Viscount (also Humboldt, Cudworth), Rush Lake, Moose Jaw (also Mossbank and Milestone) and the Estevan area (including Oungre, Hirsch and Macoun). The plastics currently accepted for this pilot program includes plastic grain bags and twine. Grain bag rollers mounted on trailers are available to roll the plastic into bales. So far, over 454 tonnes of plastic has been collected and recycled since the program began. Producers have been quick to participate in the program and we have seen a steady increase in the amount of plastic collected.

FOR MORE INFORMATION

- Contact PCAB at 1-866-298-7222; or
- Visit www.saskpcab.com to find the collection site nearest to you.

Wrapped grain bag on roller

GRAIN BAGS ARE EFFICIENT AND ECONOMICAL WHEN USED PROPERLY

by Richard Wilkins
Provincial Specialist, Pesticide Regulatory
Crops Branch

and

by Tayah Hanson
Program Manager
Saskatchewan Association of Rural Municipalities

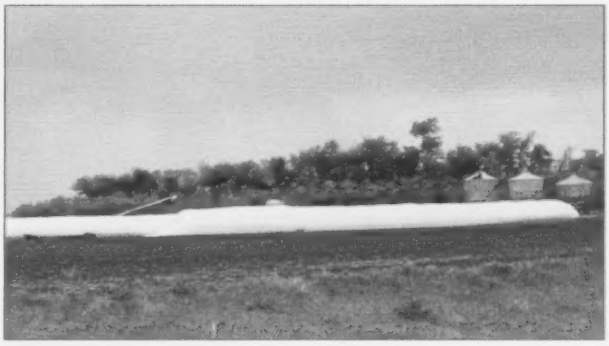
When traditional storage containers become full, grain bags can be an excellent option for short-term storage. However, they can also become habitat for rats if not used properly. Pest Control Officer field reports indicate that after as little as three months, grain bags can become infested with rats.

Grain bags, full or used, are a source of food, warmth, and retain and generate moisture (through condensation). This is the perfect harborage for rats as they like their food, shelter and water in close proximity to each other.

Grain bags used for longer term storage or at the same location time after time, provide an abundant source of food and shelter. As a result, rats are less likely to eat bait placed around a grain bag. This makes rat control more difficult and often requires the use of a liquid bait.

The Provincial Rat Eradication Program (PREP) offers the following recommendations:

- Grain bags should be used only as short-term storage as they make perfect habitat for rats to live, stay warm and procreate, especially over winter.
- To avoid chronic or repeat infestations, grain bags should not be used in the same location year after year.
- Do not pile dirt on the end of a grain bag. This does not deter rats and provides increased protection for them.
- Proper disposal of grain bags is important. Discarded grain bags offer the same source of food, water and shelter as it did when it was in use. PREP encourages RMs and producers to participate in the Saskatchewan Grain Bag Recycling program.



Canadian Agriculture Literacy Week

by Sara Shymko
Agriculture in the Classroom Saskatchewan

Agriculture Literacy Week will be celebrated by children across the nation March 3 - 9, 2013. The week is focused on connecting food producers with educators and classrooms to engage students in learning about where food comes from and how it is produced. Hands-on learning connects children and youth with the agriculture industry in a relevant manner.

After its inaugural year in 2012, 100 per cent of teachers surveyed said they found the resources Agriculture in the Classroom Saskatchewan (AITC-SK) provided during Agriculture Literacy Week useful. Many of them requested more resources and interactive experiences be provided in coming years. The overwhelming conclusion by educators was that the face-to-face exposure to real producers changed the way the children viewed agriculture and the impact the industry has on their daily lives.

Students discover the origin of canola oil by participating in a grain-crushing exercise.

Events and activities will run throughout the week, sparking future activities and exposures throughout Saskatchewan. In 2013, AITC-SK will partner with the Saskatchewan Science Centre to kick off the week with the Regina Agriculture Adventure, a highly interactive program for Grade 4 students. Further activities include a made-in-Saskatchewan lunch in an inner-city Regina school, interactive demonstrations, as well as classroom visits by farmers, ranchers, and other agriculture industry representatives.

Agriculture Literacy Week was made possible through funding from Farm Credit Canada and support from many volunteers. Local farmers and agriculture industry representatives are essential to the success of the week. Agriculture in the Classroom Saskatchewan thanks all funders and volunteers for their participation.

Agriculture in the Classroom Saskatchewan is a non-profit organization with a mandate to connect kids and agriculture. By increasing awareness of the importance of agriculture in the past, present, and for the future, youth otherwise removed from the industry become aware of the fundamental relationships between life, the earth, and agriculture. As part of this effort, Agriculture in the Classroom promotes inquiry-based learning through the development of programs, activities, and curriculum resources, distributing these improved learning opportunities for use within the school system.

FOR FURTHER INFORMATION

- Call (306) 933-5224;
- Email [redacted]; or
- Visit www.aitc-sk.ca.

DEMONSTRATION OF CHEMICAL CONTROL OPTIONS FOR ABSINTH WORMWOOD

by Nadia Mori, MSc, PAg
Regional Forage Specialist, Watrous
Regional Services Branch

Absinth or absinth wormwood (Artemisia absinthium) can be a troublesome weed in perennial forage. Absinth is a long-lived plant that grows each year from a woody base. The plant is easily identified by its strong sage odour. The *Saskatchewan Weed Control Act* lists absinth as a noxious weed which must be prevented from expansion if the infestation is greater than five hectares or eradicated if the infestation is less than this. Once established, absinth is difficult to eradicate. A single plant can produce around 50,000 seeds which remain viable for three or four years. Absinth is generally unpalatable to cattle, bison, and horses but does have good palatability for sheep and goats. Dairy cattle that consume absinth will produce tainted milk.

Mature absinth wormwood plants (Artemisia absinthium) can reduce production in perennial pasture.

Cultivation is not a practical method of control in perennial pasture or hayland. Mowing prior to seed set does provide some control but does not eradicate the established plants. No biological controls have yet been released for absinth. Control is therefore often limited to herbicides or rogueing.

In collaboration with the Western Beef Development Centre, a project funded through the Agricultural Demonstration of Practices and Technologies (ADOPT) program was implemented at Kerrobert, Lanigan, Pathlow, and Meacham to compare six different chemicals for absinth control in perennial forages. Herbicide treatments were applied during the last week of June and first week of July when plants were actively growing but prior to seed production.

Dicamba and 2 4-D provided top growth control only with some regrowth being observed three months after the treatment. Both products are recommended for use on absinth with the understanding that more than one season of application is required. The Dow AgroScience product Restore provided good control. Rejuvera XL, a DuPont product, produced varied results. This product is currently not registered for use but does show some promise. With all herbicides, it is important to keep in mind that any desired broadleaf plants such as alfalfa or other legumes may be eliminated. The economic implications of eradicating these desired legumes, needs to be weighed against the reduction in the abundance of absinth. Long-term pasture management should focus on maintaining a healthy stand in good condition which can compete well with undesirable weeds such as absinth.

FOR MORE INFORMATION

- Contact your local Regional Forage Specialist; or
- Call the Agriculture Knowledge Centre at 1-866-457-2377.

Saskatchewan Agriculture seeking new volunteer Crop Reporters

by Shannon Friesen, PAg
Regional Crops Specialist, Weyburn
Regional Services Branch

The Saskatchewan Ministry of Agriculture is seeking volunteers who are interested in providing weekly reports during the growing season. The Crop Report is a weekly survey that includes questions regarding rainfall, weather conditions, seeding progress, crop development, harvest progress and many other topics that are important to agriculture. Crop Reporters are actively involved in gathering important and relevant information about the local agricultural community.

Each week, Crop Reporters record information and either phone, fax or email it to the Agriculture Knowledge Centre. The data is then compiled and released to the public on Thursday mornings. This year an exciting new feature for online survey submission will be introduced. There are currently about 230 volunteers reporting from across the province; many of whom have been Crop Reporters for 10, 20, 30 or even 35 years. Saskatchewan Agriculture truly appreciates the commitment and time these volunteers have contributed to the Crop Report.

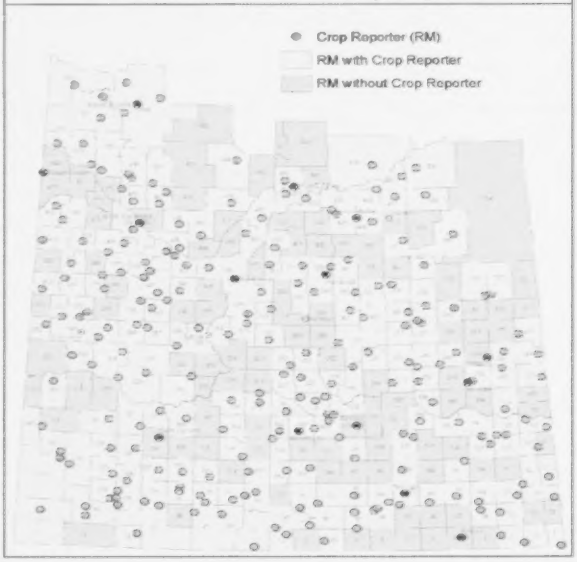
The Crop Report is Saskatchewan Agriculture's most popular publication. It is a crucial tool used by many organizations and people in the agriculture industry to plan and evaluate each crop year. The Crop Report is a highly valued and respected indicator of crop progress from seeding to harvest. The report also helps the general public to understand the challenges facing producers and promotes the importance of the agriculture industry to the province's economy.

The map shows the rural municipalities (RMs) that are in need of a Crop Reporter. There are about 100 vacant RM positions that need volunteers. Please consider becoming a Crop Reporter. Producers are encouraged to join the Crop Reporting Service whether the RM currently has a Crop Reporter or not; there are several RMs that have multiple reporters.

FOR MORE INFORMATION or to volunteer

- Contact the Agriculture Knowledge Centre at 1-866-457-2377.

RMs With and Without Crop Reporters



THE CUTTING EDGE IN FORAGE MANAGEMENT: BRINGING RESEARCH TO THE FARM

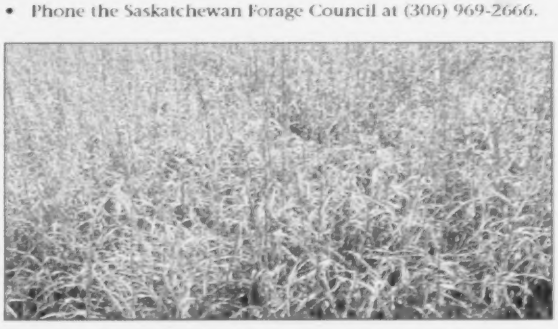
The Ministry of Agriculture is hosting regional forage events for producers, extension specialists and industry representatives wanting to improve their knowledge of forage management.

Topics to be discussed include:

- Year round grazing management
- Forage fertility
- Forages in rotation
- Forage legumes
- Climate change impact on grasslands
- Canada thistle control
- ADOPT forage projects

FOR MORE INFORMATION

- Contact your local Regional Forage Specialist; or
- Phone the Saskatchewan Forage Council at (306) 969-2666.



North Battleford
March 12, 2013
Western Development Museum

Moose Jaw
March 13, 2013
Cosmo Senior Centre

Yorkton
March 14, 2013
Gallagher Centre

Ministry of Agriculture starts conversation on Agriculture Awareness

by the Saskatchewan Ministry of Agriculture

The agriculture industry is responsible for feeding more than seven billion people on our planet. However, our growing urban population is losing touch with its agricultural roots. Studies show that the general population increasingly does not understand where our food comes from or the economic and environmental benefits that modern agriculture provides.

On February 5 and 6, 2013, the Saskatchewan Ministry of Agriculture hosted an Agricultural Awareness Summit. The summit brought together leaders in agriculture, communications, business and technology to discuss the opportunities that exist to engage the general public in a discussion about the realities and opportunities of agriculture in Canada. While many ideas were discussed, some of the themes that kept resurfacing were perception, values, trust, transparency and communication. Participants also agreed that agriculture awareness needs national attention.

The conference prompted those in agriculture to understand the way that their industry is viewed by the public and to explore the ways in which this perception was formed. Those present expressed a desire for the public to understand that they share a strong values system of respecting and caring for the animals on their farms and in being stewards of the environment, not because it is required by government agencies, but because they genuinely care for the earth and understand their connection to and responsibility for it. Caring for the environment is not a burden on producers, it is a necessary and integral part of a sustainable agriculture business.

The summit also discussed the importance of transparency in agricultural operations and the value of allowing people to see first hand the realities of food production and what actually takes place on a farm so that they can form opinions of agriculture based on reality and fact.

Moving forward, the summit concluded, agriculture must not only do more to increase the outputs from a farm, but also to engage in confident conversations, share its vision of a safer and healthier planet, nurture and respect the trust that people have in producers and our overall food system and allow the public to see more of not only what the agricultural industry does, but also understand how and why they do it.

Today, farms produce more food, more reliably, and in greater volume than at any point in human history. Modern agriculture is a science-based field with an abundance of diversified career opportunities from food production to biotechnology, engineering and more. The Agriculture Awareness Summit was the first step on the journey to help the public understand the industry's benefits.

FOR MORE INFORMATION

- Email [illegible]; or
- Call Shelley Jones, Agriculture Awareness co-ordinator at (306) 787-3121.

Agriculture Minister Lyle Stewart sets the tone at the opening of the Summit on Feb. 5.

Agriculture awareness co-ordinator Shelley Jones addresses delegates at the Summit.

Government of Saskatchewan
Ministry of Agriculture

Land for Sale by Tender

COMPLETED TENDERS AND FIVE PER CENT DEPOSIT MUST BE RECEIVED AT THE MINISTRY REGIONAL OFFICE, AS LISTED BELOW, BY 12:00 NOON APRIL 3, 2013

Additional tender forms may be obtained from Ministry of Agriculture Regional offices, Rural Municipality offices, or online at www.agriculture.gov.sk.ca.

Conditions of Tender

1. Tenders must clearly indicate the land that is being bid on and the amount being bid. Tender forms are available for this purpose. Tenders must be enclosed in a sealed envelope and mailed or delivered to the appropriate Regional office as shown below. The envelope should be clearly marked "Land Tender."
2. Tender bidders are responsible for meeting any requirements of Part VI of *The Saskatchewan Farm Security Act*.
3. A certified cheque, money order or bank draft, payable to the Saskatchewan Ministry of Agriculture for five per cent of the total tender, must accompany the tender. Tenders submitted without certified funds will not be considered.
4. In addition to the highest bid for any individual parcel, the Ministry of Agriculture will consider bids that provide the highest aggregate price for any combination of parcels.
5. The Ministry of Agriculture reserves the right to reject any bid. Where the highest bid is rejected, the bidder may be provided with an opportunity to meet the upset price.
6. An agreement for sale and transfer will be prepared in the name of the successful bidder. The spouse of the successful bidder can be added to the agreement for sale at time of preparation upon receipt of a written request.
7. The successful bidder has 30 days from the effective date of the agreement for sale to provide the balance in cash and to complete the purchase. The deposit will be forfeited if the successful bidder does not finalize the agreement for sale.
8. All fees to register title with the Infomation Services Corporation are the responsibility of the purchaser and are in addition to the bid price.
9. All lands, together with any fixtures and improvements, are sold "as is." The bidder is solely responsible to determine the value and condition of land being sold, value and condition of improvements, land quality, land use, environmental condition and any other information pertaining to tendered land.
10. The Ministry of Agriculture may withhold or withdraw any land from sale at any time prior to the delivery of a signed agreement for sale.
11. Where land is not sold, a short term permit on the land may be offered to the highest bidder at Crown rental plus GST and a $40 permit fee. If the permit is refused, the Ministry may offer it to others on a declining bid basis.

FOR LAND IN THE RMS LISTED BELOW, CONTACT THE DESIGNATED MINISTRY OF AGRICULTURE REGIONAL OFFICE.

RMs 346, 496, 581
Mail or deliver tenders to:
LANDS BRANCH
NORTH BATTLEFORD REGIONAL OFFICE
1192 - 102nd ST.
NORTH BATTLEFORD SK S9A 1E9

RMs 273, 335, 394, 397, 401, 430, 463, 486, 493, 520
Mail or deliver tenders to:
LANDS BRANCH
TISDALE REGIONAL OFFICE
BOX 1480, 1105 - 99th ST.
TISDALE SK S0E 1T0

RM	Land Desc	Acres	Codes	Est Mkt
	DAVE JUNK ***BOX 1480, 1105-99TH STREET*** ***TISDALE SK S0E 1T0*** ***(306)878-8820***			
273	SE-4-28-01-2	139	G	$40,500
335	SE-15-37-08-2	159	G	$63,900
394	SW-21-43-02-2	157	G	$27,900
394	SW-3-46-01-2	159	G	$26,400
397	NW-27-40-13-2	160	G	$32,400
397	SE-30-42-13-2	117	G	$34,200
397	SW-17-42-14-2	159	H	$40,300
	DON FONTAINE ***1192-102ND STREET*** ***NORTH BATTLEFORD SK S9A 1E9*** ***(306)933-5682***			
346	NW-31-35-10-3 *Some chem fallow*	158	C,G	$73,600

RM	Land Desc	Acres	Codes	Est Mkt
	TIM FEIST ***BOX 1480, 1105-99TH STREET*** ***TISDALE SK S0E 1T0*** ***(306)862-1789***			
401	NE-29-43-25-2	151	G, F	$76,400
430	SW-10-43-22-2	160	H	$38,600
463	NW-25-47-01-3	160	G	$84,500
486	NE-35-53-10-2	142	H	$60,800
486	SE-30-52-11-2	160	C	$51,000
486	[NE-10-50-09-2 NW-10-50-09-2 SE-10-50-09-2 SW-10-50-09-2 NW-15-50-09-2 SE-15-50-09-2 SW-15-50-09-2]	892	G, F, W	$196,800
493	NW-17-49-02-3	160	G	$49,400
493	SE-20-49-02-3	149	C	$79,900
520	[NE-7-52-24-2 NW-7-52-24-2 SE-7-52-24-2 SW-7-52-24-2 SW-18-52-24-2 SE-12-52-25-2]	963	G, F, W	$317,800

MORE LAND LISTINGS ON NEXT PAGE

CODES: A - Access Limitation, B - Buildings, C - Cultivation, F - Fencing, G - Grazing, GS - Grain Storage, H - Hay, LF - Livestock Facilities, P - Power, S - CP/Survey Correction, T - Timber Included In Valuation, W - Water, Y - Yardsite. [] Denotes - "to be sold as a unit"

RM	Land Desc	Acres	Codes	Est Mkt
520	[NE-1-54-25-2 NW-1-54-25-2 SW-1-54-25-2 NE-2-54-25-2 NE-11-54-25-2 SE-11-54-25-2 NE-12-54-25-2 NW-12-54-25-2 SE-12-54-25-2 SW-12-54-25-2 SE-13-54-25-2 SW-13-54-25-2]	1916	G, F, W	$561,400

RM	Land Desc	Acres	Codes	Est Mkt
	TRISH JOHNSON ***1192-102ND STREET*** ***NORTH BATTLEFORD SK S9A 1E9*** ***(306)446-7630***			
496	SE-31-50-08-3	159	G, A	$39,100
	DAVE SHORT ***1192-102ND STREET*** ***NORTH BATTLEFORD SK S9A 1E9*** ***(306)446-7463***			
561	SW-25-57-20-3 *Currently in tame forage, survey costs included.* *N 1/2 of the quarter LSD 5/6*	79	C	$42,775

CODES: A - Access Limitation, B - Buildings, C - Cultivation, F - Fencing, G - Grazing, GS - Grain Storage, H - Hay, LF - Livestock Facilities, P - Power, S - CP/Survey Correction, T - Timber Included In Valuation, W - Water, Y - Yardsite. [ ] Denotes - "to be sold as a unit"

Government of Saskatchewan
Ministry of Agriculture

LANDS BRANCH
TENDER TO PURCHASE PROVINCIAL LAND

FULL NAME:	
ADDRESS:	
TOWN/CITY/POSTAL CODE:	
E-MAIL:	
PHONE NO:	FAX NO:
GST Registration number:	PLEASE COMPLETE ALL SECTIONS IN FULL

TENDER
I hereby submit a tender on the following land:

RM #	Quarter Section or Advertised Unit	Tender
		$
		$
		$
		$

Deposit
Enclosed is a certified cheque, money order or bank draft for $_____
representing a deposit of five per cent (5%) of my total tender.

(Individuals who do not have a G.S.T. Registration Number will be required to pay G.S.T. on the purchase)

I hereby submit the above tender to purchase provincial land, subject to the conditions listed in the tender ad, which I have read and understood.

_____ _____

(Date) (Signature)

EVENTS CALENDAR

DATE	EVENT	LOCATION	PHONE	INTERNET
March 2013	Rural Women's Month			
March 4 - 5, 2013	Livestock Emergency Response Course	Regina, SK	1-866-457-2377	www.agriculture.gov.sk.ca
March 7, 2013	WARC Crop Opportunity and Scott Research Update	North Battleford, SK	306-247-2001	www.warc.ca
March 3 - 9, 2013	Agriculture Literacy Week		306-933-5224	www.aitt.sk.ca
March 10 - 16, 2013	Canadian Agricultural Safety Week in Saskatchewan		1-877-452-2272	www.casa-acsa.ca
March 12, 2013	The Cutting Edge in Forage Management	North Battleford, SK	1-866-457-2377	www.agriculture.gov.sk.ca
March 13, 2013	The Cutting Edge in Forage Management	Moose Jaw, SK	1-866-457-2377	www.agriculture.gov.sk.ca
March 13, 2013	Agriculture Day	Goodsoil, SK	1-866-457-2377	www.agriculture.gov.sk.ca
March 14, 2013	The Cutting Edge in Forage Management	Yorkton, SK	1-866-457-2377	www.agriculture.gov.sk.ca
March 26, 2013	Functional Foods and Processing Foods for Health Seminar	Saskatoon, SK	306-933-7555	www.foodcentre.sk.ca

Regional Services

BRINGING YOU AGRICULTURAL EXPERTISE AND ADVICE WHEN YOU NEED IT AND WHERE YOU NEED IT

The Ministry of Agriculture has 10 regional offices in Kindersley, Moose Jaw, North Battleford, Outlook, Prince Albert, Swift Current, Tisdale, Weyburn, Watrous and Yorkton.

In addition, seven satellite offices are open in the following locations:

Assiniboia
Tuesdays 9 a.m. - 5 p.m.
SCIC Customer Service Office, 401 - 1st Avenue West, Assiniboia
Phone: 1-866-457-2377

Estevan
Wednesdays 9 a.m. - 5 p.m.
SCIC Customer Service Office, #5 – 419 Kensington Avenue, Estevan
Phone: (306) 848-2857

Lloydminster
Thursdays 9 a.m. - 5 p.m.
Exhibition Grounds, 5521 - 49th Avenue, Lloydminster
Phone: (306) 446-7962

Meadow Lake
Wednesdays 9 a.m. - 5 p.m.
Wicihakan Place, 101 Railway Place, Meadow Lake
Phone: (306) 446-7962

Moosomin
Wednesdays 9 a.m. - 5 p.m.
SCIC Customer Service Office,
709 Carleton Street, Moosomin
Phone: (306) 786-1531

Shaunavon
Wednesdays 9 a.m. - 5 p.m.
SCIC Customer Service Office,
55 3rd Avenue East, Shaunavon
Phone: (306) 778-8285

Wadena
Tuesdays 9 a.m. - 5 p.m.
RM of Lakeview Office,
Highway 35 South, Wadena
Phone: (306) 946-3230

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